

DECEMBER
1953

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Amateur Radio

JOURNAL OF
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Base: Octal.



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6BE6	15/-	12SQ7	10/-
6C4	12/6	12SR7	10/-
6C5	10/-	807	10/-
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ADVERTISING REPRESENTATIVE:

BEATRICE TOUZEAU,
96 Collins St., Melbourne, C.I.
Telephones: Cent. 3411, MB 2111.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.I.
Telephone: JB 2419.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.I. on or before the 8th of each month.

Subscription rate in Australia is 12/- per annum, in advance (post paid) and A15/- in all other countries.

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AMATEUR RADIO

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
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EDITORIAL



LOOKING BACK

December being the twelfth and last month of the year is usually a period of great activity and festivity.

December is also usually recognised as a suitable time for "looking back" over the activities, achievements and disappointments of the year.

Looking back upon the year's activities in Hamdom, we are pleased to note the increasing interest in field work and the R.D. Contest. We record the success of the Coronation Relay.

Amongst our achievements we count the privilege of sixteen-year-olds to sit for the A.O.C.P. examination and the technically minded to sit for Limited A.O.C.P. examination; however we must record amongst our disappointments the tardiness of officialdom in completing

the machinery necessary to give full effect to these achievements.

Probably our greatest disappointment is our failure to disassociate, in the official mind, the vexatious problem presented by Commercial "Telecasting" from the humble but nevertheless worthwhile contribution to technical progress which could be achieved by the Amateur Experimenter.

Having looked back and recorded our successes and our failures, 'tis time to put away our cares and join in the festivities knowing full well that what has not been achieved in 1953 must be attempted with greater determination in 1954.

So till then fellow Hams, a Merry Christmas and a happy respite from your labours.

FEDERAL EXECUTIVE.

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The S/N-6 Cascode 2 Metre Pre-Amplifier.

THE S/N-6 Cascode 2 Metre Pre-Amplifier is entirely self contained (except power supply) in a 3" x 4" x 5" metal box. All parts mount directly on the rear of the front panel so that construction is easy and straightforward. The 6BK7 and 6AK5 r.f. tubes are mounted horizontally on the front panel. Co-axial fittings are used for the r.f. input and output connections. All tuning adjustments of the coils are made from the front of the panel.

The plate voltage required for the two tubes is low—150 volts d.c.—and can be taken off the communications receiver. Filament voltage required is 6.3 volts a.c. or d.c. at 0.625 amperes.

DESIGN CONSIDERATIONS

Many 2 metre converters and receivers, today, lack two important features which are necessary for DX work at this frequency. These two features are (1) high signal-to-noise ratio (low noise figure); (2) gain. Of these two, high signal-to-noise ratio is the most important. An amplifier could increase the signal-to-noise ratio nothing would be achieved—that is, you would notice an increase in signal level, but at the same time the noise level would be increased proportionally.

The opposite case would be an amplifier with a high signal-to-noise ratio with no increase in gain. This would be a decided advantage over the first amplifier in that the signal would appear louder to the ear, however, the S meter would show no increase in signal level. These two amplifiers are exaggerated cases, since fortunately practically all r.f. amplifiers improve the signal-to-noise ratio to a certain extent and give an increase in gain.

In the design of the S/N-6, the above two features were deemed to be of utmost importance. Since the first stage of any r.f. amplifier, receiver, or converter is the most important from a signal-to-noise ratio standpoint, it was given careful design consideration. The cascode circuit was chosen because if properly designed it will produce a high signal-to-noise ratio. A pentode could be used in this circuit for high gain, however, it would produce more noise because of the current division at the screen grid. Therefore, the low-noise twin triode type 6BK7, particularly designed for cascode circuits, was chosen.

The selection of a triode was not too difficult. At first a pentode connected 6AK5 feeding a pentode connected 6AK5 in a cascode circuit was calculated for signal-to-noise ratio. Under optimum conditions this calculated to be approximately 9 db (noise figure) which was good but still too high. Then a type 6BK7 cascode feeding another 6BK7 cascode was calculated and the over-all signal-to-noise ratio was approximately 5 db (noise figure). This was considered to be very good so the original design was started.

After the circuit was designed on paper a laboratory model was constructed. This model had a tendency to break into

• Many Amateurs will remember the popular "R9-cr" pre-amplifier, of a few years back, well here is a recently developed version for 2 metres, which will help to drag in those weak 3 metre DX stations. The 6BK7 twin triode is difficult to obtain, but it should be possible to use types available in Australia with some sacrifice in performance. Later on, the 6BK7 may be available and could then be substituted.

One word of caution—the circuit constants and layout must be followed faithfully.

oscillation. Therefore, two other models were constructed with different layouts to overcome this condition. Each of these models still showed the tendency to break into oscillation. Methods were devised to eliminate the oscillations, but it was felt they were too difficult for the average Amateur to duplicate and achieve a stable unit. A pentode connected 6AK5 was then considered for the second stage to replace the second 6BK7. This combination, 6BK7-6AK5, calculated to 6 db (noise figure) under optimum conditions. Three models were constructed, each with a slightly different layout. None of the layouts were unstable, however, the one shown in

Fig. 2 was considered the best and simplest for construction.

Another feature considered and incorporated was to make the front end broadband. This is very desirable for this band, since it eliminates the necessity for retuning when going from one end of the 2 metre band to the other. Also the output impedance was made adjustable so that a proper match could be made to the receiver. This is important since any mismatch to the receiver may tend to decrease the signal-to-noise ratio.

CIRCUIT DETAILS

Refer to the schematic circuit diagram shown in Fig. 1. The cascode section of the unit, which consists of both triode sections of the 6BK7, is of the parallel d.c. type. This type of circuit has the advantage over the series type circuit, in that a lower plate supply voltage is required and the heater-cathode voltage is lower.

The input circuit has been designed to accommodate either a 70 ohm or 300 ohm unbalanced line. For 70 ohm input, jack J1 is connected as shown. For 300 ohm input, the centre pin of J1 is connected to the junction of C1 and L1 as indicated by the dotted lines. Capacitors C1 and C2 and inductance L1 together with the attached antenna form a broadband input network to cover the entire two metre band. Once L1 is adjusted for the centre of the band no further adjustments are necessary.

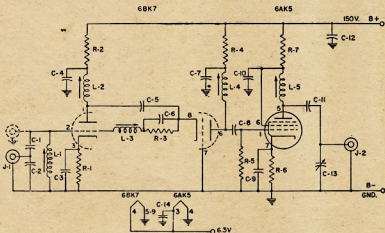


Fig. 1.—Circuit diagram of the S/N-6 Pre-Amplifier.

- C1 C2—15 pF. zero temperature, tubular ceramic.
C3, C4, C5, C6, C7, C8, C12—1,000 pF. high-K tubular ceramic.
C9, C10, C14—1,000 pF. high-K disc ceramic.
C11—25 pF. zero temperature tubular ceramic.
C13—12-120 pF. mica compression padder.
R1, R3—56 ohms, $\frac{1}{2}$ watt.
R2, R4—220 ohms, 1 watt.
R5—2,400 ohms, $\frac{1}{2}$ watt.
R6—180 ohms, $\frac{1}{2}$ watt.
R7—2,700 ohms, 1 watt.

- L1, L2, L4—Three turns No. 24 enamel wire, spaced diameter of wire, on $\frac{1}{2}$ inch diam. former.
L3—Six turns No. 24 enamel wire, spaced diameter of wire, on $\frac{1}{2}$ inch diam. former.
L5—Two turns No. 24 enamel wire, spaced diameter of wire, on $\frac{1}{2}$ inch diam. former.
J1, J2—co-ax jacks.
6BK7 socket—9-pin miniature.
6AK5 socket—7-pin miniature.
Note.—All resistors and capacitors $\pm 20\%$ tolerance unless specified otherwise.

The plate circuit of the first triode section of the 6BK7 consists of L2, C4, C5 and R2. Capacitor C4 and Resistor R2 form a decoupling network for the supply voltage. The inductance L2 is of primary importance in that it has a decided bearing on the signal-to-noise ratio. If it is replaced by an r.f. choke, the signal-to-noise ratio may be very low. Inductance L2 tunes fairly broad, but it should be adjusted for the centre of the band by spreading the coil.

Capacitor C5 feeds the signal into the cathode of the second triode section of the 6BK7. Part of this signal is fed through L3, the neutralising inductance, which forms a parallel resonant circuit with the grid-to-plate capacitance of the first triode section. This effectively tunes out the grid-to-plate capacitance which is necessary for high signal-to-noise ratio and food stability.

The second triode section of the 6BK7 is operated as a grounded grid stage. Bias voltage for this section is obtained by the cathode current flowing through R3. Capacitor C6 effectively by-passes the r.f. around this bias resistor. The plate circuit of this section incorporates another decoupling network R4 and C7. It is also tuned to resonance at the centre of the band by coil adjustment.

The final stage consists of a type 6AK5 operating as a pentode. The input to this stage is conventional. The plate circuit utilises another decoupling network formed by resistor R7 and capacitor C10. Incorporated, also, is an impedance matching network formed by inductance L5, capacitors C11 and C13. Inductance L5 is adjusted to resonance at the centre of the band, then with the receiver connected to J2, variable capacitor C13 is adjusted for the loudest signal.

Capacitors C1, C2, C11 and C13 should be of the value and type specified. The other condensers specified can either be of the tubular type or disc type. It is highly recommended the tubular type be used, with the exception of those used in by-passing the 6AK5 to facilitate short and direct connections.

CONSTRUCTION DETAILS

It is recommended that the mechanical layout shown in Fig. 2 be followed faithfully. This layout was found to be the best from an electrical and mechanical standpoint.

The S/N-6 is constructed on a 3" x 4" x 5" box with removable front and back panels. All of the components are mounted on the back of the front panel. Before mounting the components, all of the black crackle paint should be removed. This is very important to insure good ground connections. Also the lip of the box, to which the front panel attaches, should be cleaned of all paint to further insure a good ground connection.

Dimensions are given in Fig. 2 for locating the various holes. No dimensions are given for the socket holes or input and output jacks. These will depend on the type the builder uses.

As will be noted, coils L1, L2 and L3 are in line with the input jack J1 and are mounted close to the socket. Coil

L4 is mounted above and to the right of the 6BK7 socket with coil L5 mounted to the right of the 6AK5 socket. If the dimensions outlined in Fig. 2 are followed, the coils will mount close to the sockets permitting short and direct connections. In winding the coils, leave approximately one inch of wire at the ends for soldering.

The power plug can either be mounted on the side of the box or on the rear panel. This is left up to the discretion of the builder as its location is not critical.

WIRING DETAILS

In wiring the S/N-6, the work will be much easier if a small-tip soldering iron is used. The capacitors and resistors are compactly grouped around the socket which makes the soldering operation a little difficult if a large-tip iron is used.

The 6AK5 socket is wired in the conventional manner using short direct connections. Soldering lugs placed at the socket mounting holes are used as ground tie-points.

the inductance L4 should be adjusted for maximum signal. L2 is adjusted next in the same manner, followed by the adjustment of L1. In adjusting L1 and L2, it will be found that they tune quite broad. Next, the neutralising inductance L3 should be adjusted for maximum signal. This may be tricky if the inductance of L3 is too high. In this case, there will be a tendency to oscillate, with a large increase in signal just before oscillation starts. This condition will also cause the amplifier to have a rather narrow bandwidth. So check the bandwidth if you suspect L3 is wrong.

After the above procedure has been followed, it should be repeated and the inductances realigned if necessary.

Once the above alignment procedure has been completed, no further adjustments are necessary while operating your receiver.

OPERATING INFORMATION

To coin an old expression, "the receiver is no better than the antenna," applies equally well here. Use a good antenna, and one with the proper im-

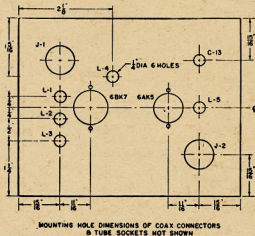


Fig. 2.—Panel layout of the S/N-6 Pre-Amplifier (back elevation).

ALIGNMENT

The alignment procedure is straightforward and simple to perform. The output of the pre-amplifier should be connected to the antenna terminals of the receiver by short piece of cable. The cable should not be over twelve inches long and must be shielded to avoid picking up extraneous signals.

With the receiver tuned to 146 megacycles, a signal of this frequency should be fed into the antenna input (either 70 ohm or 300 ohm input). This signal can be obtained from a signal generator, transmitter, or a fairly loud signal from another Amateur station can be used. If the last two methods are used, the signal should be close to the centre of the band.

With the signal fed into the input, capacitor C13 and inductance L5 should be adjusted for maximum signal. Next

pedance—either 52 ohms or 300 ohms unbalanced. If you do this and the pre-amplifier is properly constructed, you can expect a noise figure of 6 db and a signal gain of 18-24 db.

On-the-air tests were conducted at W2RMA's shack over a period of a month. During this time the S/N-6 was put through various tests and suffice to say it proved its value. Signals were heard which could not be detected without the S/N-6. Also, a definite improvement in signal-to-noise was noted on weak stations which could be detected without the pre-amplifier. This was to be expected, however, since any pre-amplifier, or receiver with a noise figure of 6 db is an exceptionally good one.

To those of you who build this 2 metre pre-amplifier, be sure to use good quality parts, good workmanship, and above all, follow the article faithfully and you'll enjoy lots of DX.

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Neutralising Condensers—
Single 33 pF. 17/6
Dual 15 pF. 35/-

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Dual type, 15 pF. 30/-

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Type RT-34/APS-13

Frequency Modulated, approx. 450 Mc. Valve line-up:

9—6AG5

5—6J6

2—2D21

1—VR105

Also contains Dynamotor, input 27v. 1.5 amp., output 285v. 60 Ma. Price £17/10/-

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Type 1045. Valve line-up in Transceiver: 2—RL18, 1—VR135, 1—5V4, 1—EA50, 1—RL37, 6—EF50, 1—6SN7, 1—GL2050 (Thyatron, 2—VR150/30 (Voltage Regulators), 1—884 (Gas Triode). This unit also contains a motor driven Selector Switch, two superbly designed Polystyrene six-position rotary Coil Turrets, and an I.F. Transformer strip ideally suitable for use with Television. Band width 10 Mc.

Indicator Unit, Type 1047, Valve line-up: 7—EF50, 1—879, 1—VR54. Also contains a 3,000 type Relay 2,000 ohms, ten assorted Potentiometers, a two-bank Ceramic Wafer Switch, and an illuminated scale (5BP1 tube and shield not included).

These two Units are brand new, and are packed together in their original packing cases.

PRICE £21/10/- the two.

Transceiver £15/-/- } if supplied separately.
Indicator Unit £7/10/- }

VALVES

BRAND NEW IN ORIGINAL CARTONS

1H6	7/6	830B	60/-
1K7	10/6	813	60/-
2A3	15/-	VR150/30	22/6
6AC7	15/-	954	7/11
6B8	15/-	955	7/11
6F8	12/6	12A6	12/6
2051	22/6		
6K6G	12/6		
6K8	12/6		
6L7	12/6		
807	25/-		

2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."

COMMAND

RECEIVERS

Type BC453, 190 to 550 Kc., £12/10/-,
BC454, 3 to 6 Mc., £7/10/-,
BC455, 6 to 9.1 Mc., £7/10/-.

TRANSMITTERS

Type BC457, 4 to 5.3 Mc., £7/10/-,
BC458, 5.3 to 7 Mc., £7/10/-,
BC459, 7 to 9.1 Mc., £7/10/-.

COMMAND RECEIVER CONTROLS, Type BC450

3—Slow Motion Dials.
6—Single Pole Double Throw Switches.
4—Miniature Jacks.
3—Volume Controls, approx. 500 ohms.

Price, £1/15/-

Post. & Pack: 6/-, Interstate 8/6.

COMMAND MODULATOR UNIT, Type BC456E

In new condition, contains:

1—12J5
1—16Z5
1—VR150/30
3—24v. Relays
Price, £3/10/-

TRANSMITTERS

Type TR354S

Containing Valves: 1 Rectifier VU111, 1 EF50, 1 10 Cm. Magnetron Valve complete with magnet, 1 Crystal Diode Type 1N21; and 1 24 volt Blower Motor. Brand new. Price £5/19/6.

MODULATING UNIT

Type 169, containing Klystron Tube, three Neon Stabilisers, one EF50, two half-wave Selenium Rectifiers, one 5U4 Rectifier, one CV85, Potentiometers, gears, Resistors, high voltage Condensers and Transformer. Price £4/19/6.

BENDIX RADIO AZIMUTH CIRCLE LOOP AERIAL CONTROLS, Type MN22A

Price 35/-.
Post. & Pack: 4/9, Interstate 6/-.

AMATEUR TELEVISION

PART FIVE

BY E. CORNELIUS,* VK6EC

TROUBLES

The results obtained from the equipment described in the previous four parts were very encouraging, and indicated that it would be worth the trouble to re-build certain items, to overcome minor defects, and to incorporate interlaced scanning.

The troubles experienced were as follows:—

1. **Sync. Signal Generator:**
 - (a) Subject to r.f. interference.
 - (b) Vertical sync. waveform such as to cause poor horizontal sync. separation.
 - (c) Not electrically locked to the 50 cycle mains.
2. **Mixer:**
 - (a) Somewhat temperamental, and subject to a 30 c.p.m. motor-beating, after an instantaneous overload.
 - (b) High peaking beyond the required bandwidth, allowing undue amplification of noise, causing "snow."
3. **Receiver:**
 - (a) Excessive gain.
 - (b) Unreliable sync. separation.
4. **Flying Spot Scanner:** Insufficient horizontal sweep, with linearity only fair.

SYNC. SIGNAL GENERATOR

The equipment is used within a thousand feet of a 660 feet vertical radiator, radiating 10 kw. at 560 Kc., resulting in a colossal field strength in the middle of the video bandwidth. While it could be reduced to negligible proportions in the video amplifiers, it occasionally caused trouble in the sync. generator.

The frequency and amplitude of the output of the primary r.c. oscillator was caused to vary with transmitter modulation. The effect on the picture was for vertical edges to have moving waves throughout their length.

interlaced scanning. New standards were therefore adopted for this feature—

1. 245 lines per frame.
2. 50 fields per second, 2:1 interlaced.
3. 25 frames per second.
4. C.c.l.f. type sync. waveform.

INTERLACED SCANNING

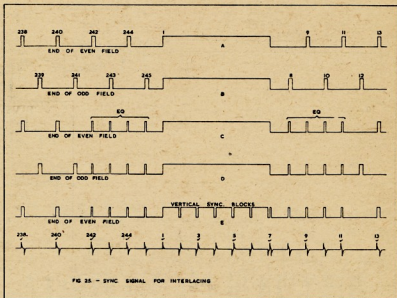
In interlacing, an odd number of lines per picture are used, and two vertical scans, or fields, are completed for each. Thus, the first field (1/50 sec.) scans odd lines 1, 3, 5, ..., 243, and half of 245; the second field scans half of 245, 2, 4, 6, ..., 244. The result is that even lines of the second field fall between the odd lines of the first field. See Fig. 24.

On differentiation of this pulse train, a series of positive going pulses is provided as in Fig. 25f, to synchronise the line time base, the extra half line pulses being ignored easily by the time base.

In the new design sync. signal generator, the primary oscillator at 12,250 p.p.s. is a multivibrator, with three stages of frequency division (5, 7, 7) to 50 p.p.s., and division by 2 to 6125 p.p.s. for line frequency. An equalising multivibrator at 12,250 p.p.s. provides the leading edge of all sync. waveforms.

Line Blanking and Sync.

The line blanking pedestal is obtained by delaying a pulse by nearly a line



To obtain this effect, the primary oscillator runs at twice line frequency, i.e. $12,250 \div 2 = 6,125$ —line frequency $\div 245 = 50$ —field frequency.

This enables the field rate to be doubled, from 25 to 50 per second, reducing flicker without increase in bandwidth.

The sync. waveform, at the end of odd and even fields, differs, as seen in Figs. 25a and 25b. For odd fields line pulse 245 is much closer to the frame pulse, than line 244 pulse, on the even fields.

On sync. separation, the frame time base is likely to fire early on even fields, making line 2 closer to line 1 than to line 3. This is called "pairing" and is prevented by inserting equalising pulses, at twice line frequency, instead of line sync. pulses, before and after each frame pulse. See Figs. 25c and 25d.

To maintain horizontal line sync. during the frame pulse, this pulse is slotted, at twice line frequency, such that the trailing edge of the slot (positive going) corresponds in time to the leading edge of the equalising and sync. pulses. See Fig. 25e.

period. This pulse, at 6125 p.p.s. keys in every second equalising pulse, which triggers the line sync. multivibrator. See Fig. 26.

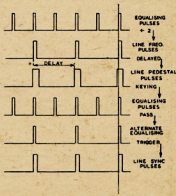


FIG 24 - INTERLACED RASTER

The sync. trouble was manifest as a tendency for the bottom of the picture to tear out of sync. Non-locking to the mains allowed faint hum bands to be moving slowly, with an irritating effect.

I decided to minimise these defects, and at the same time to incorporate

* C/o. Station 6WA, Wagin, Western Australia.

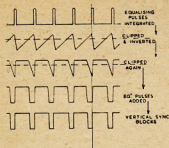


FIG 27—VERTICAL SYNC BLOCK GENERATION

Frame Sync.

The frame sync. pulse is formed from equalising pulses, by integration and slicing, and making up the trailing edge of the slot by addition of equalising pulses.

Sync. Train Synthesis

Keying pulses, at 50 cycle rate, timed from an appropriate equalising pulse, and suitably delayed, are used for—

1. Keying out 7 horizontal sync. pulses.
 2. Keying in 14 equalising pulses.
 3. Keying in 6 vertical sync. blocks.
- The composite sync. waveform is then clipped, and becomes a waveform, as in Fig. 25e, similar to the c.c.f. standard.

The 50 p.p.s. blanking waveform is compared with the 50 cycle mains in a discriminator, and feeds a correction signal back to the 12,250 p.p.s. master multivibrator for mains locking.

The sync. signal generator has eight outputs—

1. Combined sync. for the video mixer.
2. Combined blanking for the video mixer.
3. 6125 p.p.s. driving pulses for the flying spot scanner.
4. 50 p.p.s. driving pulses for the flying spot scanner.
5. 6125 p.p.s. driving pulses for the picture monitor.
6. 50 p.p.s. driving pulses for the picture monitor.

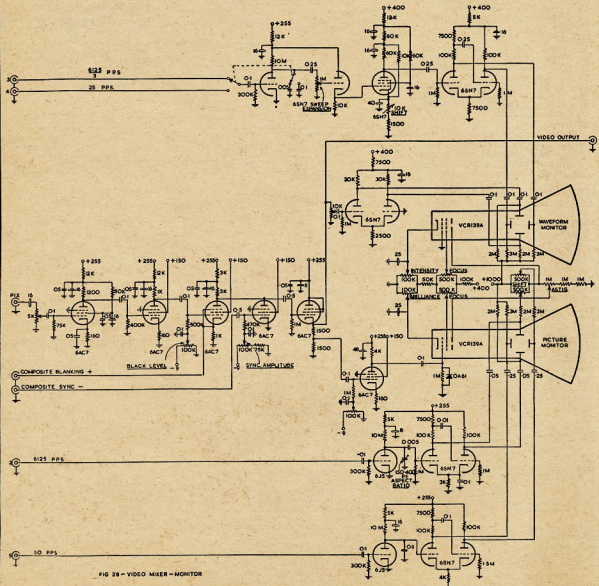


FIG 28—VIDEO MIXER—MONITOR

7. 6125 ÷ 3 p.p.s. driving pulses for the waveform monitor (line).
8. 25 p.p.s. driving pulses for the waveform monitor (frame).

VIDEO MIXER-MONITOR

The video mixer was simplified, and one tube removed, together with the phase inverter. High peaking was effected by choice of cathode by-pass of the first stage. This was as good as the circuit described in Part 4, but still gives over compensation at high frequencies, outside the 1 Mc. bandwidth, causing "snow."

Blanking is injected into the cathode of the third stage, and sync. into the grid of the fourth. Capacitative shunting of the cathode bias resistor of the third stage, by the blanking input cable, provides additional high peaking. Another amplifier tube was added to drive the grid of the picture monitor tube, in the monitoring section, associated with the mixer. See Fig. 28 for circuit of the combined unit.

Picture and Waveform Monitor

This unit provides cathode ray tube monitoring of the transmitted picture, and of the video waveform, at 1/3 line and 1/2 field rate. Two VC139A cathode ray tubes are used, mounted side by side. The picture monitor tube time bases are directly driven from the sync. generator. Video modulation is applied to the grid, from the mixer section, with an OA61 diode for d.c. restoration.

Horizontal deflection of the waveform monitor is obtained at 1/3 line, and 1/2 field rate, from a time base driven by

pulses from the sync. generator, with a switch for frequency selection. The video waveform is displayed vertically.

To examine the vertical sync. waveform, embracing 7 lines, considerable expansion of the horizontal trace is required, of the order of 30 to 50 screen diameters. A circuit has been devised, possibly not original, to accomplish this expansion, together with trace shift of the same order.

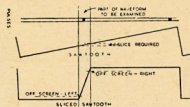


FIG. 28 - TRACE EXPANSION

The circuit selects a slice of the horizontal sawtooth, and amplifies this slice. In this way, the c.r.t. spot is arrested just off screen until the selected slice of the sawtooth is reached, then travels rapidly across the screen, displaying the selected part of the complete cycle, and is arrested again just off screen, until flyback. See Fig. 29. The width of the slice, and its position can be varied. This gives "expansion" and "shift" facilities.

Using this circuit, the deflection amplifiers do not have to provide a deflec-

tion voltage in excess of say 1½ screen diameters, thus ensuring a stationary spot well off screen. By altering the part of the sawtooth where the slice is taken, effective shift of the display is obtained, independently of the deflection amplifier and deflection plate mean potentials.

The circuit as shown is very satisfactory for its purpose, but if adapted for general oscillographic work, would need some further experiment, as there is considerable interaction between trace expansion and trace shift, and linearity of the part displayed is rather poor.

RECEIVER

The receiver video amplifier gain was far greater than necessary, so the first stage was removed. This changed the polarity required at the input, and enabled the phase inverter of the video mixer to be recovered also. The vertical time base frequency had to be changed, from 25 to 50 p.p.s. and this improved the vertical linearity considerably.

A worthwhile improvement in synchronism, on the new type sync. waveform was immediately apparent, and the picture remains locked, over a far wider range of signal inputs, than is permissible for an acceptable picture. Some pairing was evident, causing an apparent 122 line picture, but improvement in the vertical sync. separator has overcome this. The sync. separator now uses three 6SH7 tubes, resulting in a vertical sync. output of a short duration negative going pulse of constant amplitude and width.

(Continued on Page 9)

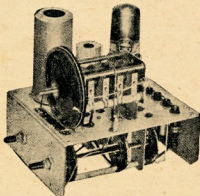
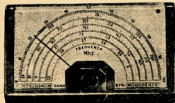
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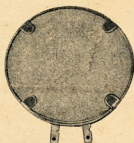
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- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.

- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfil" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved. Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

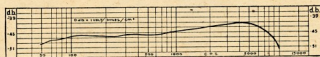
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{2}$ " diameter (rear), $\frac{3}{8}$ " thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
Output Level = -45 db (0 db = 1 volt/dyne/cm²)
Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

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ZEPHYR PRODUCTS PTY. LTD. 118 WATTLETREE RD., ARMADALE, VICTORIA

AMATEUR TELEVISION

(Continued from Page 7)

FLYING SPOT SCANNER

The deflection sensitivity of the VCR12 is very different on the X and Y plates. I found it hard to drive horizontally at 6125 p.p.s. By increasing the X and Y axes, and rotating the unit axially through 90 degrees, I could then drive the insensitive plates at 50 p.p.s., and the high frequency sawtooth then gave sufficient raster width, with better linearity, on the more sensitive pair of plates. The vertical time base discharge capacitor was reduced to 0.25 uF. for the 50 p.p.s. sawtooth.

EPILOGUE

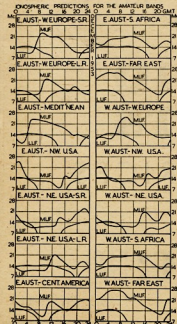
The equipment described now uses a total of 94 tubes, which may seem a hard way of obtaining a mediocre result. But the equipment as it stands may readily be converted to 625 lines, with a minimum of alteration. The present limitation is the resolution of the flying spot scanner tube.

In Part 1, I stated that commercial camera tubes were not available. I now find that an English firm will supply slightly flawed miniature camera tubes, to bona fide experimenters, at a reduction from £135 to £25 sterling. Deflection yoke, focus and alignment coils, etc., come to an additional £35 sterling. This is still a costly item, but may be within the reach of some Amateurs.

I hope that this series has interested some of my readers in the practical side of Television, and possibly encouraged a few to try their hand in this field. If I can amplify some points on which I have been obscure, or help in any way, please write, and I will do my best.

The End.

PREDICTION CHART FOR DEC., 1953



AMATEUR CALL SIGNS

FOR MONTH OF OCTOBER, 1953

ADDITIONS

VK— New South Wales
24NB—R. J. Baty, "Shelcoke," 25 Shell Cove Road, Neutral Bay, N.S.W.
2AUD—K. E. McDonald, Station: 45 Lombard St., Balgowlah; Postal: 486 (M) Sgdn. W.T. Section, R.A.A.F., Richmond, N.S.W.

Victoria

3ADZ—G. E. Delahoy, Eden Park Road, Whittlesea.
3AKZ—A. K. Head, 3 Annadale St., Kew, E.4
3APB—B. P. A. Bereford, 141 Albion St., East Brunswick.
3AJA—A. K. Head, Slight, R.A.A.F. School of Radio, Ballarat.

Queensland

41M—J. D. MacLean, No. 2 Holman Land, Kangaroo Point, Brisbane.
40V—O. V. Ahnfeldt, 34 Railway Ave., Mt. Isa.
4UJ—P. L. Dubois, Thursday Island.

Western Australia

6KL—H. Leaver, The Homestead, Byford.
6SF—J. C. Watson, Station: Mobile on board M.V. "Silver Flit," Postal: 13 Bernard St., Claremont. (This entry appeared as VK4SF in the September list and should now be deleted.)

ALTERATIONS

VK— New South Wales
2AU—"Glen Shee," Little Hartley, Kanimbria Valley.
2MB—20 Dowling Street, Redfern.
2GW—12 Francis Street, Homebush.
2RI—R.A.F. Transmitting Station, London-derry.
2UN—4 Herbert St., Inverell; Postal: P.O. Box 129, Inverell.
2UP—23 Moore Street, Harbord.
2VJ—35 Woodlands Avenue, New Lambton.
2VS—23 Victoria Street, Strathfield.
2ACH—43 Giffard Street, Lidcombe.
2AFP—34 Ruskin Street, Byron Bay.
2AIZ—11 Gray Street, Goulburn.
2AJD—47 Lindfield Avenue, Lindfield.
2AJM—40 Inverallan Avenue, Pymble.
2AMK—Postal Address: P.O. Box 32, Hornsby.
2AOZ—Station: No. 6 "Kelvin," 42 Victoria Parade, Manly.
2AOB—31 Farnell Street, Gladstone.
2ARI—39 Bedford Street, Willoughby.
2ARQ—25 Kezworth Street, Leichhardt North.
2ARV—Lot 174 Alexander St., Walsand, Newcastle.
2ARY—1 Wyndham Street, Alexandria, Sydney.
2ASB—No. 3 Flat, 12 Howe Crescent, Ainslie, Canberra.
2ATA—Flat 4, 124 Alison Road, Randwick.
2AWP—"Wandooma," Moree.

Victoria

3BI—613 Mair Street, Ballarat.
3EV—341 Mt. Alexander Road, Ascot Vale.
3TF—303 St. Georges Road, Thornbury.
3TJ—87 York Street, South Melbourne.
3NJ—Flat 16, Regent Court, 209 Toorak Road, South Yarra, S.E.1.
3XI—Princes Highway, Warrnambool.
3YA—10 Belair Avenue, Glenroy.
3AB—Leonard Street, Belmont, Geelong.
3ABW—Postal Address: Leonard St., Belmont, Geelong.
3ADD—23 View Street, Auburn.
3AJT—The Covedish, 409 Burwood Rd., Hawthorn.
3AOB—151 High Street, Shepparton.
3AOC—Windsor Road, Boronia.
3ASC—Station: 104 St. Heller St., Heidelberg; Postal: 25 Faraday Street, Carlton.
3ATP—10 Poulter Street, Ashburton.

Queensland

41R—8a Cintra Street, Eastern Heights, Ipswich.
43M—221 McLeod Street, Cairns.

South Australia

5CH—14 Dandabool Place, Mount Gambler.
5GW—Station: 14 Second Ave. Sefton Park; Postal: 29 Grassmere Rd., Prospect.
5LF—Postal: 2 Olive Ave., Westbourne Park; Station: Mobile on board S.S. "Tyrala" (C/o A.S.B. Bond St., Newcastle, 2.N. N.S.W.).
5LK—10a Valour Avenue, Kings Park.
5LX—(Portable) 10 Valmai Ave., Kings Park.
5SA—Section 1947, Police Paddock, Darwin, N.T.
5TG—31 Lindfield Ave., Hazelwood Park.
5ZO—19 Harrow Road, St. Peters.

Western Australia

6BY—C/o. 129 Canning Highway, South Perth.
6CK—C/o. Flying Doctor Service Control Station, Meekatharra.

6DF—20 Walker Avenue, West Perth.
6EJ—Station: Property of Collins & Co., 9 miles north of Bencubbin; Postal: C/o. Post Office, Bencubbin.

Territories

9DS—Lke, T.N.G.
9RM—Bulolo, T.N.G.
9WL—Chabal, via Sohano, Bouganville, T.N.G.

DELETIONS

New South Wales: VKs 2AN, 2DS, 2FS, 2IS, 2JK, 2ML, 2TD, 2TP, 2TQ, 2ZA (now operating under VK3AZA), 2ABE (now operating under VK3ABP), 2ADJ, 2AFH, 2AHC, 2AJN, 2ANJ, 2ASD, 2ATT, 2AWR.

Victoria: VKs 3HU, 3NP, 3NV (now operating under VK2AGN), 3OP, 3QX, 3VT, 3WJ, 3AFI, 3AGK, 3AGZ, 3ATM.

Queensland: VKs 4AJ, 4AP, 4FS, 4GI (now operating under VK2AIT), 4IM, 4JN (now operating under VK3ANY), 4KT, 4TW.

South Australia: VKs 5GP, 5RY.

Western Australia: VKs 5SI, 5BQ (now operating under VK5FE), 6DU, 6RG, 6WD.

Tasmania: VK7JT.

Territories: VK1AE.

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Ross A. Hull Memorial V.H.F. Contest, 1953

RULES

1. The Contest will take place in the 50-54 Mc. band and will commence at 0001 hours E.A.S.T. on 19th December, 1953, and will continue until 2359 hours E.A.S.T., 3rd January, 1954.

2. Points may only be claimed for contacts outside the competitor's own call area.

3. Only one contact with any one station per twenty-four hours commencing midnight E.A.S.T. to count as a scoring contact.

4. Exchange of a serial number will constitute a contact.

5. The serial number of five or six figures will be made up of the RS (telephony) or RST (telegraphy) reports plus three figures which may commence with any number between 001 and 100 for the first contact and which must increase in value by one for each successive contact, e.g., if the number chosen for the first contact is 050, then the number for the second contact must be 051, for the third 052, and so on. If any contestant reaches 999, then he will start again 001 and continue.

6. Scores will be calculated on a points basis as shown in the table appended.

7. Logs should contain the following information: Date, time (E.A.S.T.), call of station contacted, serial number sent, serial number received, points claimed for the contact, and at the foot of each page, total points claimed, and at the end the grand total. Logs should be

signed by the competitor, together with a declaration to the effect that the station was operated strictly in accordance with the Rules and spirit of the Contest and that the decision of the Federal Contest Committee shall be final and binding. Logs must be received by the Federal Contest Committee, Box 1734, G.P.O., Sydney, not later than the 24th February, 1954.

8. Entries will be accepted from all States of the Commonwealth and Districts of New Zealand. Check logs from other countries will be appreciated by the Contest Committee.

9. For the purposes of scoring, Northern Territory will count as a separate call area, VK9 will be considered as a

State of the Commonwealth, and VK1 (if any activity) as a separate country.

10. The decision of the Federal Contest Committee will be final and binding upon all matters pertaining to this Contest.

11. The regulations governing the control of Amateur Radio in each contestant's country must be observed.

12. **Awards.** The outright winner of the Contest within the Commonwealth of Australia will receive an appropriately inscribed certificate and, in addition, if a financial member of the W.I.A., will hold the Ross A. Hull Memorial Trophy for one year.

The highest scorer in each call area in Australia and New Zealand will be awarded a certificate. In addition, the Federal Contest Committee will have the right to make any additional awards.

	VK2	VK3	VK4	VK5	VK6	VK7	N.T.	VK9	ZL1	ZL2	ZL3	ZL4	Other Countries
VK2	—	5	4	2	10	4	6	10	7	7	7	7	20
VK3	5	—	4	4	9	10	6	11	7	7	7	7	20
VK4	4	4	—	5	11	7	3	7	7	8	8	8	20
VK5	2	4	5	—	7	5	3	10	8	8	8	8	20
VK6	10	9	11	7	—	10	12	14	17	17	17	17	20
VK7	4	10	7	5	10	—	7	12	7	7	7	7	20
N.T.	6	6	3	3	12	7	—	3	15	15	15	15	20
VK9	10	11	7	10	14	12	3	—	12	13	14	15	20
ZL1	7	7	7	8	17	7	15	12	—	4	2	3	20
ZL2	7	7	8	8	17	7	15	13	4	—	4	3	20
ZL3	7	7	8	8	17	7	15	14	2	4	—	4	20
ZL4	7	7	8	8	17	7	15	15	3	3	4	—	20
Other Countries	20	20	20	20	20	20	20	20	20	20	20	20	—

To obtain points per contact, look down the column of your call area until you come to the line of the State contacted. The figure where the two lines intersect is the points score for that contact. For example, VK5 works VK4—points score is 5.



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N.S.W. V.H.F. GROUP OF THE W.I.A.

VICTORIAN V.H.F. GROUP

The next meeting of the V.H.F. Group will be held at Science House at 7.30 p.m. on 4th December. The last meeting held on 6th November was well patronised. The lecturer for the evening was Mr. Bob Winch, the Group President. His lecture was on installation of car r.f.s. A vote of thanks was given by Dr. Bob Black for the meeting.

50 Mc.: This band shows signs of opening up and there should be some activity soon. 2RU and 2VW have not given up yet!

144 Mc.: This band has been fairly active this month, the highlight being the Night Hidden Tx Hunt, held on Wednesday, November 4, at 7.30 p.m. till 9.30 p.m. There was a good turnout of mobile stations, these being 2WJ and 2AJZ, 2HL and 2ABZ, 2ABH, 2SHR and 2APQ, 2AWZ, 2HO, 2OA, 2KS and 2AGT, 2AWQ and company had engine trouble, and 2AFM. Last but not least, 2ANF, 2EW and Rex Griffiths as the hidden Tx. As usual, John and Eva had the boys guessing. First to get in was 2KS, he arrived at 8.17 p.m., next was 2AWZ at 8.27 p.m., then the rest were directed in. There were ten car loads. A good night was had by all. The location, about the highest spot around, was Duffy's trig station; on the western side of the hidden Tx. For the concluding of the night, we were very glad to see Dave Andrews there mobile, but where was 2ABO?

There has been good openings to the South and 2GU has been again worked from Sydney, his frequency is 144 Mc. To the North, there has also been good openings. 2ADT, 2AGV and 2BZ have been worked at 89 in Sydney. Bob Winch 2OA and Bill 2ABH have both worked Newcastle for the first time. Congrats to both. Horrie 2HL and John 2WJ have contacted each other using hams both ends, over 50 miles with fairly small inputs. Glad to hear 2ZY, 2AOE, 2JH and 2AWQ (late of VK5) on 144 Mc. 2WJ has started a lunch time session on 144 Mc. and gets quite a few contacts between 1 and 1.30 p.m.

2APQ and 2KS are amusing themselves using duplex on 144 Mc. and doing well too. Keep looking out for 2ANU at Murrellbrook and 2VU at Singleton, they are on 144 Mc. 2ARK is back, glad to hear this. Mobile stations heard around Sydney this month are 2ADY, 2HL, 2AGT, 2WJ, 2AZZ, 2ABO, 2OA and to these we add 2HE and 2VL almost mobile, with 2MQ, 2XXK of Fremantle. 2PQ and 2PQZ are back, and Dave is out for DX. 2ARK, 2ACC, 2YH and 2ABU are putting out a fine signal on 144 Mc. Peter 2UX in the Mountains is all set for DX on 144 Mc. Don 2FO, from Ballarat, Vic., paid a visit to 2APQ and shows much interest in 144 Mc. 2BZ of Newcastle is on the lookout for DX, his frequency is 144.23 Mc.; c.w. or phone. Max 2OT has improved his signal and is 80 in Sydney on c.w., he has been during the opening, if any may have been a phone contact. Max! Tom 2FO has also been heard with a much improved signal.

The Hunter Branch of the W.I.A. had a Hidden Tx Hunt on 3rd October on 144 and 3.5 Mc. This was held at night and started at 7.30 p.m. and ended at 9.10 p.m. This is something new in Tx Hunts. [Further details appeared last issue in the Hunter Branch notes.—Ed.]—2HO.

The third C.D.E.N. 2 mx Triangulation Test held on 14th October was quite successful, 15 stations participated. Home stations had the problem of trying to locate the six positions from each of which 3LN made a five minute transmission. Afterwards, when the positions were announced, it was apparent that many accurate bearings had been obtained. The six locations cheerfully chosen on this occasion were: Colberg Cemetery, Kew Cemetery, Burwood Cemetery, Brighton Cemetery, St. Kilda Cemetery, Melbourne General Cemetery. Len was accompanied by XYL Phil, whom he finds indispensable as navigator. The next test will be on 8th December. It is proposed to hold the first mobile fox hunt on the second Wednesday in February.

With excellent weather conditions, the first v.h.f. field day for the season on 25th October was quite successful. Apparently activity was confined to the 2 mx band, where 3LN operated from Mt. Dandenong and 2ADU near Romsey. Both these stations also worked mobile on the way. In addition, 3OJ was portable near Gembrook. A good number of home stations, including some in the country, were active during the day. The next field day is scheduled for 6th December.

Six metres is showing signs of increasing interest and activity. The speaker at the November meeting, who spoke on the subject, We understand that VKQBD calls and listens each evening on the 6 m band at 7.30 p.m. he is using a four el. beam and running crystal control with an 632 p.p.a. and the receiving set-up is a c.c. converter into a 3CM2. Look for him on 50.2 Mc.

Following a request by the Victorian Division Council to provide a number of lecturers for the November general meeting, the V.H.F. Group duly carried this out to the satisfaction of all, and of those present. Herb 3JO, V.H.F. Group Chairman, gave a brief outline of activities and conditions experienced on these bands and then introduced Max 3BQ, who spoke on crystal controlled converters. A foundation member of the W.I.A., Max still derives a lot of satisfaction from Ham Radio. He is apparently endeavouring on the v.h.f.s. to match his worthy achievements of pre-war days on the h.f. bands. Herb then introduced Hilda 3JH who described the modifications which he had made to his AK381 to get it going on 2 mx. Herb followed this by a brief description of the method of getting the 2B2 homing adaptor on to 2 mx as a converter. Jim 3ABA then gave a general outline of v.h.f. types and problems involved. Finally, Len 3LN spoke on mobile work, having on view his 2 mx job consisting of a 3 tube c.c. tx and super regen rx with r.f. stage, and employing co-circuit circuits. This unit is quite selective and has the inherent property of suppressing auto ignition interference. He gave a brief outline of the C.D.E.N. triangulation and mobile tests. Len displayed the qualities of a magician when he produced a bundle of metal rods, 49 in. long, except the centre one, and up sprang a complete three el. 2 mx beam.—SABA.

SOUTH AUSTRALIA

Albert 5ZL reports working VK4s last month on 6 mx, with Ron 5MK, in his new QTH, not far behind him. Both 5AV and 5CM also worked into action. Brian 5CA and Ron 5NL, on the usual weekly sked. Bill 5HD, with the sooper-dooper beams and tower, is repair-

ing the ravages of the weather in preparation for the coming season, and still doing a good job on Sunday mornings with the 5WL relay. Hugh 5BC also did of Aberdeen and has been heard down here. Austin 5WO, at Laura, hopes to be on 50 Mc. soon along with Bob 5BG at Crystal Brook—line of sight from the big mast, Bob!

Country activity seems to be on the build up and on 2 mx we have Ray 5DA at Crystal Brook working the city with excellent strength. Clem 5GL working Hugh 5AV on 2 mx, but reports the band really needs a shot of adrenaline to put some life into it. Clem and Frank Holsten had a rather unusual experience with a 20 mx xtal converter using a 6AK5 in the r.f. stage. Parasitic oscillations were being radiated on 288 Mc. and of course the reception on 20 mx was well nigh impossible. The signal was tunable and the logical exploration seems to be that with such a high gain tube, the condenser with its short leads was acting as a high Q tank on 288 Mc. and controlling the oscillations. You may remember a grid-rod oscillator, in "Radio & Hobbies" which used a loop to shunt the I.f. coil to reach the v.h.f. bands, so perhaps Clem was right Frank.

On 288 Mc. there are good contacts to be had and plenty to learn. Don't put your change-over relay coil in the h.t. supply to the Tx. Rex 5KY solved that one for Warwick 5FS; use a 100 ohm resistor in series with the coil. A good above earth r.f. potential by running the twisted heater lead through the centre of the line (50 ohm's) cure! to avoid by-passing most of the r.f. through the heater-cathode capacity.

In the city there is plenty of activity with 5XA, 5TD, 5JO, 5JM, 5HN, 5LB, 5LW (two signals from him!), 5FS and 5JK (the discant antenna should be the shot for you Jim, it looks like an umbrella to start with!).

In the country we have Nobby 5CY at Whyalla working Bob 5OD at Pirie occasionally well across the gulf, with Ern 5EN also getting under way on 1 mx; and with the Woomera Club 5WC under the auspices of 5OC, maybe we will hear some v.h.f. signals from afar! In the Murray area there are plenty to occupy the v.h.f. men although they haven't worked the Mount yet, either Lofly or Gambier, but the S.E. hills are still looking a bit for contacts. A very active small group at Pt. Lincoln!

As Xmas approaches, I wish you all, along with the XYLs and harmonics, the compliments of the season. Don't forget the Presents on 25th January at the Gorge Oval. Joe and his wife and daughters have made some wonderful prizes for the wives, sweeties and children! Book the date NOW.—5XU.

HINTS AND KINKS

At a recent "Hints and Kinks" night of the Victorian Division of the W.I.A., Fred Bail, VK3YS, made a good suggestion re the use of a jeweller's fretsaw. He pointed out that the blade should be reversed so that the blade cuts on the "draw" stroke and not on the "push" stroke as an ordinary hacksaw blade. Since receiving the fretsaw, the mortality rate of the fretsaw blades has gone down by 90 per cent., and also it cuts a much straighter and truer line.

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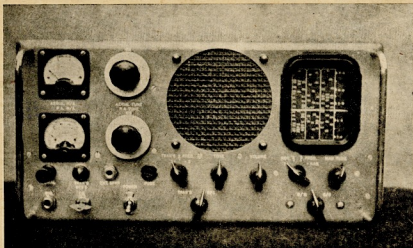
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DX ACTIVITY BY VK3AHH

DX HIGHLIGHTS

ZC3AA is now operating from Christmas Island on c.w. and phone.

ZL3JA plans a "DXpedition" to Tokelau Island (probable prefix ZMT).

GZRO intends to work from Sarawak and Borneo beside other places. Details of his future trips will be published later.

BAND CONDITIONS

Reports on conditions and activity in October reached a record number. Each week-end provided some section of either our VK-ZL or the "CQ" DX Contest, which undoubtedly contributed to the increased activity. I hope all participants enjoyed their contest period. Before reporting on this month's DX I want to remind readers that—

- (1) An asterisk indicates DX stations or prefixes worked, and
- (2) All times are in G.M.T.—zero time—x

3.5 Mc. Only conditions to North America were reported: Don 3ALQ spoke to WGBZ*, and a series of Qs* was worked on c.w. (1100-1300) by 3AHH.

7 Mc. As the reports show, this band again supplied us with good DX conditions. W-land and the Pacific Islands were consistently workable (0900-1000) with the signal strength. European and Mediterranean conditions were more reliable over the long path (0800-0900) than via the short path. Break-throughs to Central-America and South America. South East Asia and the Far East could be contacted around 1100-1600 if stations in those areas were active.

All stations report W* contacts in addition to the normal DX. Note 2AHH: VPBBQ*, Laurie LAMB*, PAQVW*, KLT*, HRIAT*, Eric 4K1: ITIABA*, IITOB*, CRTAA*, YUJAD*, s.w.l. Eric BEK519: KVAA*, CVTBB*, 854BS, YIZAM* and others; s.w.l. Dave Jenkin: VP9BF*, 3AHH: Europeans: VPBB*, KJG*, KGG*, KXG*, JAA*, DUTS*, V56CQ, KV4AA* on c.w., and CTIQQ*, Ws*, and KJG* on phone.

14 Mc. The good old 20 mx band gave DXers an excellent time during October, although conditions were in general found to be erratic.

Condition to North, Central and South America often existed between 0100 and 1100 and around 2100-2300, but were not very reliable during the latter period. Break-throughs to Europe and the Middle East occurred, irregularly, via the long route (0500-0800) and, more consistently, over the short path (1200-1600). Times for Africa were 0230-0800, 1200-1600 and around 2300 (North and East Africa).

Almost all reports (c.w. and phone) included the normal run of the common European, Ws*, KA/JA*, KH0*, KX*, KGG* and KR6*.

Further c.w. activity was reported by: Brian 1BA (forwarded by IRL: JZOK*, G14*, CE5*, LIA*, OZ*, Russ IRL: FYI*, FYZ*, CXY*, LUG*, KV4*, 2AHH: FIBAR*, FIBAT*, PABAY*, CIBF*, 4X4RB*, KP4AZ*, ZC1P*, JZOK*, CE3DZ*, YOK3R*, GUIS*, XWAA*, G14V*, V51*, V58*, 3AHH: VO3RF*, Neville 3AHL*: YK1AB, JACK 3JJ: LU3BO*, LUSAQ*, LURAA*, LUREN*, FYIAZQ*, FY4JZD*, CN6W*, 3AHL*: SA1P*, SVIAN*, FQ3AP*, Z51BK*, Z52AM*, Ken 3KR: OD5BH*, FK3AB*, YK1AH*, OD5LX*, 4VRAN*, JZOK*, ZB1KA*, Z52AB*, 3KR: 3FA*, CIBF*, V5*, 3KR: JZOK*, John 3AKO: CRIAB*, FK3AO*, Ray 3ATN: VPGJZ*, Bob 4RW: ZK1AA*, KVB4B*, KAJJ*, John 4BH (submitted by 3KR): JZOK*, ZDDCCP*, CE3DZ*, Bob 5RG (ex-IRG): ODSAB*, KVB4B*, Austin 5W: XE1TD*, KP4AT*, P2JAB*, Z5ST*, CRIAB*, CIBF*, JZOK*, V5*, V52*, V53*, V54*, FK3AE*, KLT*, TFSV*, GDF3FS*, Z5SDW*, Z5SMP*, Ray 3RK: Z5JL*, Z5H1*, Z5JN*, Z5D3N*, Z5D3R*, Z5D3S*, Z5D3T*, Z5D3U*, Z5D3V*, Z5D3W*, Z5D3X*, Z5D3Y*, Z5D3Z*, V51*, V56*, JZOK*, F4BH*, Z5YCK*, Alan 5Y: XW6AA*, HSIWR*, CRIAB*, F4YBB*, E5SC*, Z5H1*, E5TH*, KAPJ*, ZC1P*, CRIAB*, Z5H1*, 4X4BA* and others; s.w.l. Eric BEK519: AP2R, OD5LX, YIZAM, JZOK*, LUREN, FURAA, XW6AA, CIBF, CE3DZ, ZC1P, OAS*, OZ*, FYI*, FYZ*, V51*, HXK3 MM; s.w.l. Dave Jenkin: HRIAA, HRIAT, CIBF, OD5BH, HXK3 MM, JZOK*, LUREN, LU4AA, CE3E, Z5H1, V51, HXK3 CRIAB, F4YBB, Z5SFT, FY4JZ, GHSHT, 3AHH: XW6AA*, CIBF*, KAJJ*, ETZUS*,

LUSAQ*, ZK2AA*, FK3AC*, V51*, V52*, V56*, CRIAB*, 4X4RE*, 45TNG*, Z5SMP*, ZK1AB*, HXK3 MM.

And here are the 20 mx phone reports of the month: 2AHH: HP3FL*, YIZAM*, AP2R*, KG4AO*, KC6AA*, KAJJ*, CN8MM*, Z5JN*, CIBF*, CIBF*, KAPJ*, TA5AA*, HXK3 MM, HXK3 MM, CN8C*, DULV*, VU2*, VRAAE*, V51*, V52*, V56*, Z5CVM*, OAAV*, V51MS*, HXK3 MM, ZK2AA*, V5N4C*, LURAA*, XW6AA*, KJAJJ*, OZTJ/AM*, 2AMB*, FQ3AD*, Hans 2AOU: ZK2KN*, VU2*, V51*, V52*, V56*, KJ6BA*, KX6AA*, CN8MM*, CRIAB*, KJAJJ*, LU4DMG*, XW6AA*, MP4K*, HZ1AB*, Z5CVM*, HSIWR*, 3KR: HC1FS*, HC1LO*, CN8MM*, SVOWE*, Z5PCFP*, V51A*, PY2CK*, PY2AHS*, FY4CH*, LU4DMG*, KAJJ*, V56B*, VRAAE*, HC2JF*, SUR: FY2CK*, VRAAE*, HSIWR*, Ken 3WM: KWB6B*, KR6*, KAJJ*, VU2*, V51A*, V52*, ZK2AA*, ZK2AB*, KG4AO*, DULV*, XW6AA*, ZK2KN*, Z5SMP*, VRAAE*, XW6AB*, Harold 3ANC (with 9 watts to an inverted L antenna): ZK2AB*, ZM6AA*, V52*, VRAAE*, KAJJ*, CN8C*, V51*, V52*, VU2*, Z5SMP*, HC1MB*, KJ6AV*, VRAAE*, OZTJ/AM*, E5Y*, Z5CVM*, FY2CK*, FY2AHS*, FY4JZ*, LU4DMG*, LUTAT*, Z5J1J*, Z5B2C*, Z5SOM*, ZK2KN*, T102A*, T1J1J*, Len 3ALD (forwarded by 3AKO): OZTJ/AM*, 3ATN: Z5PCFP*, TA5AA*, CN8MM*, numbers PY*, and LUG*, KX6AA*, TT, KT, Z5*, HC1MB*, OZTJ/AM*, Z5B2C*, Z5ZGR*, Z5S10*, Z5SOM*, Z5B6W*, Z5S0Y*, CRIAC*, VO2G*, Z5ZGR*, Z5C*, E5Y*, 4ST*, VRAAE*, OAAJ*, SPJAJ*, QOQDZ*, CP1AA*, CP5AB*, JAF1U*, 4K1: YJ1AA*, KJ6AA*, DULMB*, E5B*, VU2*, V51*, V52*, Z5ZGR*, 4RW: KAJJ*, Z5PCFP*, HZ1A*, LU2P*, FIBAR*, ZM6AA*, VRAAE*, 5H: HSIWR*, LUTIX*, V51A*, Z5X1A*, HC1LO*, Z5ZVZ*, HK5ER*, Z5PCFP*, CN8C*, 5W: Z5N1Y*, V51*, V52*: John 6GU: HRI6G*, FQ3AB*, Z5CVM*, AG2AF*, XW6AA*, CN8C*, 45TCV*, ZM6AA*, HSIWR*, CN8MM*, Z5N1Y*, Z5L1P*, MP4B*, MP4B1L*, V51*, V52*: Norm 6G: a number of Z5*: TRK: CN8MM*, V52*: s.w.l. Eric BEK519: HC1MB, KAJJ, V52, Z5B2C, Z5ZGR, VRAAE, s.w.l. Norman Clarke (of Ivanhoe, N.S.W.): LUTAT, KAJJ, Z5SMP, SU1AS, s.w.l. Dave Jenkin: CN8MM, E5Y.

21 Mc. Conditions on this band experienced a further improvement during October. W-land, Central and South America broke through between 2100 and 0300, while the band opened to the Middle East, North America and the Middle East from 0830 to 1200. Reports mention the 30/10/53 as the day of the first opening

this season to those regions in W.A. and Vic. 0450-1100 was the period for Africa with South East Asia from 0830 to 1130.

Almost all reports mention contacts with Ws*, KGG*, KA/JA*, plus: Reg 3GX: ZK2AA*, KXG*, V51W*, V52*, 3PA: HC1MB*, KXG*, KZ4WZ*, 45T1B*, VR2*, DUTSV*, 4X4RE*, ZC1P*, Gs*, AP2K*, HB*, VQ4RF*, ETZUS*, VO3RF* and 45T1B*, KR6AA*, KEG*, CRIAB*, HB*, 4X4RE*, V51FE*, ZK2AA*, VQ4RF*, Gs*, KXG*, 4K1: VQ4RE*, VU2: DUTSV*, Gs, G54DHD, KXG, ZK2K*, Y51W*, DL, 6GU, VU2*, Gs*, 4NF: Z560V*, DUTSV*, Z5ZK*, Gs, VQ4RE*, Z5S1*, V51W*, AP2L*, TRK: OH2OP*, GMDHDD*, s.w.l. Bob Jenkin: KZ4WZ*, 3AHH: T1T0*, 45T1B*, DUTSV*, KXG*.

28 Mc. It looks as if conditions on this band were quite good in Queensland as proved by Les 1XJ: KAZDC*, JA1CR*, KH6*, XE2WE*, WSUKU*, WEVAD*, WEMKE*.

GENERAL NEWS

Cards for JZOKF will be handled by Alan VKBY (thanks YYY). LUREN eagerly looks for VK3 Saturdays and Sundays at 0900 on 14070 Kc. He urgently requires a VK3 contact for his WAZ (thanks 3JJ). ZC2AB is active on Direction Island. Macau is represented by CRIAF, CRIAB and CRIAE. FURAA is active on 21 Mc. SMSAQW is looking for VK on 3.5 Mc. between 2000z and 2200z (thanks 5W).

An error crept into my last month's MS: Z5ZVZ and Z5ZAL are obviously in Dutch Guiana. A "Dutch New Guiana" does not exist on this planet.

QTHs of interest: XW6AA—Radio Station Vientiane, Laos, Indo-China.

JZOKF—Via VK9Y, Alan J. Smith, Box 13, Law New Guinea.

SUIMR—P.O. Box 672, Cairo, Egypt.

VE2BM—Via VE1FQ.

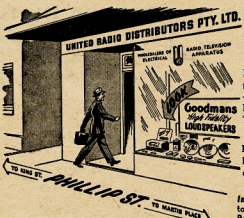
VPBBQ—Richard Hollinger, U.S.N.S. Navy 138, c/o N.Y.C., U.S.A.

QSLs were received by 3AHH: HC1MB: 3PM: NEINMC, HC1MB: 3ATN: VPSAR, HZ1AA, HC1MB, PYING, FK3AB, KWB6B: 4RW: HZ1AA, 3H: OAB, HC1MB, FIBAE, V52: our 21 Mc. 6GU: SVOWE: 9YK: XW6AA: BEK519: CN8J, E5BD, KP4T, KJ6AX, 4X4BA, FY8AT, HP3FT, and FYI.

This time I say "thank you" to VKs 1BA, IRL, 2AHH, 2AMB, 2AOU, 2APL, 3GX, 3JJ, 3KR, 3PA, 3UR, 3WM, 3AHC, 3AKO, 3ALD, 3AL, 3ATN, 4EL, 4RW, 4K1, 5HL, 5RG, 5RK, 5W, 6GU, 6F, 7RK, 8YV, and 9YK.

BEK519, Norman Clarke and Dave Jenkin.

Cheerio till next month!



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1636-3H	200-220-230-240	300	80	2 x 6.3v-2a; 5v-3a	42/9
1332-9H	200-220-230-240	300	120	2 x 6.3v-2a; 5v-3a	52/3
1336-3H	200-220-230-240	400	150	5v-3a; 2.5v-5a; 6.3v-4a	70/-
1371-8	200-220-230-240	500-600-750	300	150/-	150/-
1406-19	200-220-230-240	850-1000	350	2 x 6.3v-3a; 2 x 2.5v-3a; 5v-3a	116/-
1643-23	200 or 230	565-500-425	250	6.3v Tap 5v-2a (500v insul.)	17/8
1323-31	200-230-240	—	—	2.5v-10a (1000v insul.)	47/6
1305-32	200-230-240	—	—	2.5v-10a (3000v insul.)	75/-

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FEDERAL, QSL, and DIVISIONAL NOTES



FEDERAL

Fed. President: G. Glover, VK3AG.
 Fed. Secretary: G. M. Hull, VK3ZS, Box 2611W, G.P.O., Melbourne.
 QSL Bureau: R. E. Jones, VK3RJ, 23 Landale Street, Box Hill, E.11, Vic.
 DX C.C. Manager: G. I. Morris, 50 Eighth Street, Parkdale, Vic.

NEW SOUTH WALES

President: Jim Corbin, VK2YC.
 Secretary: David H. Duff, VK2EO, Box 1734, G.P.O., Sydney.
 Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
 Divisional Sub-Editor: Harry Powell, VK2AYP, 9 Russell Avenue, Wahroonga.
 QSL Bureau: J. B. Corbin, VK2YC, 78 Maloney St., Eastlake, Sydney (Inwards and Outwards).
 Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2ARH, Ryde Ave., West Kempsey; Newcastle: Ron McD. Stuart, VK2ASJ, 95 Dunbar St., Stockton; Coalfields and Lakes: Harry Hawkins, VK2YJ, 27 Comfort St., Cessnock; Western: W. H. Stitt, VK2WH, Camblonga, Forbes; South Coast and Southern: Roy Raynor VK2KDO, 42 Pettit St., East Deniliquin; Central: Knock VK2KNO, 42 Yanko Ave., Waverley; Northern Suburbs: Harry Powell, VK2AYP, Russell Ave., Wahroonga; St. George: Chas. Coyle, VK2YK, 34 Carlton Cres., Kogarah Bay.

FEDERAL

AMATEUR CALL SIGN BOOK

Progress with the preliminary work for the publication early next year of the Australian Amateur Call Sign Book, which has been granted the copyrights under the terms of a public tender—have progressed very satisfactorily.

Advertising space is rolling in and design work has commenced on a "snappy" proposed design for the front cover—something appropriate to Ham Radio and call signs. This design will also ensure that the use of the book by fellows have any fare for design work of this type here is an opportunity to submit your ideas. It need not be expertly drawn so long as the idea is clear; we can have an artist lick it into professional shape. Forward your rough sketch or what have you direct to the Federal Secretary, Box 2611W, G.P.O., Melbourne, C.I.

ANOTHER HAM FOR HEARD ISLAND

There's no doubt about it! Despite old hand "brass hat" criticism that Amateurs are a dying race and contribute little to scientific progress in the modern electronic era, it still seems to the desire that Amateurs fill many an important Government post—in fact you will find them in top positions in almost every section of the radio and electronic field the Commonwealth over, nay, the world over.

Yet another Ham goes to the Antarctic as an official radio operator and communications man. This time it's George Delahoy, VK3ADZ, George Delahoy, Heard Island, who will be taking his own 100w. rig with him for operation in the 7 and 10 Mc. bands on 30 and c.w.

He will be looking for contacts everywhere in the world, but particularly back home in VK Australia. Give him a shout boys if you hear him on the air.

OPERATING TECHNIQUE

Currently appearing in several overseas magazines are some interesting points for good operating technique which would be good for every VK Amateur to emulate, judging by some of the poor procedures occasionally noticed on the bands. Thank goodness the minority only come within this category.

LISTEN on your frequency for five minutes before putting your station on the air. This will allow you to hear at least one side of any QSO that would be held for some VK Amateur. If frequency is thus engaged, then shift to a frequency not in use. Outside of Contests, this can usually be found. The recent decision by the C.I.B.F. will be a very good one. This goes for you, licensed in 1912; especially you licensed in 1953. AND ME!

President: G. Dennis, VK3TF.

Secretary: C. Gibson, VK3FO.

Administrative Secretary: Mrs. G. Pickering, Law Court Chambers, 191 Queen St., Melbourne.
 Meeting Night: First Wednesday of each month at the Radio Club, Melbourne Technical College.
 Divisional Sub-Editor: K. E. Pincott, VK3AFJ, 14 Dunscombe Ave., Ashburton, S.E.11.

QSL Bureau: Inwards—Graham Roper, VK3BZ, 28 Lucas St., South Caulfield, Vic. Outwards—Frank O'Dwyer, VK3BZ, 190 Thomas St., Hampton, S.7, Vic.
 Zone Correspondents: Western: T. B. Rodda, VK3TR, Esplanade, Warracknabeal; Box 254.
 Western: W. Wines, 11 Redford St., Warrnambool, and E. Giddings, VK3KAN, 8 Nelson St., Warrnambool; Eastern: A. D. Buchanan, VK3FD, "Booroodinal", Wahing; Far North Western: M. Folle, VK3GZ, 101 Lemon Ave., Mildura; Northern: Leo Dwyer, VK3SG, and John Battrick; North Western: C. Case, VK3ACE, Cumming Ave., Birchup.

QUEENSLAND

President: J. A. Weddell, VK4PT.
 Secretary: V. P. Green, VK4VS, Box 638J, G.P.O., Brisbane.
 Meeting Night: First Friday in each month at the Royal Geographical Society Rooms, Ann Street, City.
 Divisional Sub-Editor: J. T. Hope, VK4XL, Royal Parade, St. John's Wood, Ashgrove.
 QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda, South Brisbane (Inwards and Outwards).

LOW PERCENTAGE B.C.I. AND T.V.I. FROM G-LAND HAMS

A recent document released by the British Post Office, entitled "Radio Interference Data," brings out some rather interesting facts relating to the interference caused by G.L.H. and Broadcast Listeners by Amateur Stations. Of 47,152 cases of b.c.i. examined, only 231 were found to be the fault of G.L.H. stations. In instances of complaints of t.v.i., in 424 instances only were Amateurs involved. This is an astoundingly low percentage from a source to which so much blame attached. The document also granted that if an Amateur Station is in the vicinity, then it must be the cause of any kind of interference experienced. It is a credit to British Amateurs that they have kept the incidence of both forms of interference to such a low level. The document also gave guidance to the Australian Amateur when his time comes; it should be a directive to those responsible to legislate in a manner designed to the obviously high percentage of other forms of electrical interference—it'll save more than a few headaches later on.

DX C.C. APPLICANTS PLEASE NOTE!

Applicants for DX C.C. and those members forwarding additional cards are requested to sort their cards into alphabetical order of Countries and not call signs.
 A list set out in the same order is also required showing the following details: Country, Call, Date, Phone or C.w., Frequency.
 Applicants should be addressed to VK3BZ, G. I. Morris, 50 Eighth St., Parkdale, S.11, Vic.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Alan VK3YU overhauled the Tx and Rx in preparation for 48 hours' solid operation during the recent "CQ" Contest. Expects that the petrol and diesel for the power unit will set him back a few shillings, but maybe it was worth while.

VK3WZ, with 14 Mc. c.w. as Manus Island, currently heard on QTH c.w.
 Eric Macklin, ex-VK1EM, has at long last obtained his cards from a fardy printer and will spend the balance of November making them and mailing them. 'Tis rumoured that Rob ex-VK1RG has already issued his, but none sighted for the time being. Now we need Roy ex-VK1RR to get busy with his and then the 1953 Macquarie bunch will be in the clear.
 The BERSIBS to date he has mailed 944 reports this year and received 453 replies. Quite a bit of work involved in making the reports and it's pleasing to see that it is not in vain.
 Can anyone advise whether VS4JH, who operated from the North Borneo region around August, 1946, is still in the land of the living and present QTH?
 Lee CIBF gives QSL address as via WIWAF.

SOUTH AUSTRALIA

President: W. W. Parsons, VK3PS.
 Secretary: R. G. Harris, VK3RR, Box 123AK, G.P.O., Adelaide. Telephone: J 1151.
 Meeting Night: Second Tuesday of each month at St. Mary's, Adelaide.
 Divisional Sub-Editor: W. W. Parsons, VK3PS, 10 Victoria Avenue, Rose Park.
 QSL Bureau: Geo. Lister, VK3RZ, 8 Brook St., West Mitcham, South Aus. (Inwards and Outwards).

WESTERN AUSTRALIA

President: G. A. Moss, VK6GM.
 Secretary: J. Mead, VK6JL, Box N1002, G.P.O., Perth.
 Meeting Place: Perth Technical College Annex, Mounts Bay Road, Perth.
 Meeting Night: Third Tuesday of the month.
 Divisional Sub-Editor: W. E. Coxon, VK6AG.
 QSL Bureau: Jim Humble, VK6RU, Box F119, Perth, West Aus. (Inwards and Outwards).

TASMANIA

President: L. E. Edwards, VK7LE.
 Secretary: F. J. Evans, VK7FJ, Box 371B, G.P.O., Hobart.
 Meeting Night: First Wednesday of each month at the W.I.A. Club Room, 147 Liverpool St., Hobart.
 Divisional Sub-Editor: L. E. Edwards, VK7LE.
 QSL Bureau: Inwards—T. Allen, VK7AL, 6 Thirza St., New Town; Outwards—Ray Calverton, 100 St. Johns St., Hobart.
 Zone Correspondents: Northern: M. A. Chaplin, VK7KAC, 56 Merallyn Rd., Launceston; North Western: J. Wilson, 11 Cunningham St., Burnie, Tasmania.

NEW SOUTH WALES

The October meeting of the N.S.W. Division was held in fine weather and 92 members were present to hear George and the Wireless Branch, talk on the P.M.G. Regulations, the problem of B.C.I. and the Advisory Committee. Roy Raynor, VK2KDO, was the guest. Armstrong who had been unexpectedly called away to the country. After a very concise summary of how the three projects affected the life of the Amateur, Mr. Riley sent the rest of nearly two hours answering the queries of the assembled Amateurs. At the end of that time, Mr. Armstrong was given the floor after being moved by Mr. Caldecott 2DA.

At a lecturette, Vaughan Wilson demonstrated the effects of ionisation when transformers, chokes and condensers are worked at very high voltages. The subject was well illustrated a point of a previous lecture by Mr. Leo Medina, of the C.S.I.R.O.
 The meeting ended at 10.30 with the ensuing "rag-bew" after being blacked out in the hall, continuing on the footpath, as usual, and so it was obvious that a good time was had by all.
 The first South Western Zone Convention was held at Wagga on 1st November. It was a social and financial success, and great credit is due to the organisers: Jim 2AJQ, Zone Officer, Coolamon; Alf 2BW and Stan 2AID, of Wagga; Stewart 2PL, Griffith; Ross 2PN, Tumut, and Alan 2PH, Sydney. A full report appears elsewhere in this issue.

NORTHERN SUBURBS ZONE

My apologies, fellows, for missing out with last month's notes, but not having been on the bands much since the scheme, I could gather little news.
 Alan 2PH has been busy re-building the rig and experimenting with a W3JK beam on 20 and 40 mc. It seems to work DX that I can hardly hear. Hec 2AC and Vic 2AWN are kept busy with Institute affairs and are responsible for the tape recording of our Sydney League reports. The recording also includes diagrams and slides, are sent around the country branches and members are very enthusiastic about the scheme. The AARI is putting out quite a good signal from a difficult location. Well fellows, I will be on 20 and 40 mc in the evenings from now on so how about contacting me with all the hot news from this zone.—2AVG.

WESTERN SUBURBS

Activity is at a low at present owing to the poor conditions of the suburban AARI. It is on 21 Mc. and has a beam with telescopic elements for band changing, near finished I believe. The Bureau is still working on the details of the procedure of obtaining a call sign. A rig for 20 and 40 mc is owned by the Club and needs only an antenna. The club holds general meetings on the second night of the month. Information, ring LB 5234 (work days) and ask for Barry.

has taken some leave and is in Sydney for a fortnight. Graham 2FN alone holds the fort, bitterly complaining that he has no one to talk to on 6 pm.

As I have not heard anything from the Casino gang, ZADE and 2AHL, but no doubt they are! I was aware of the trend of events by listening around the bands. The Kyogle twins are quieter than ever, and I have not heard from them. I am a constant participant in the zone hook-up; Alan and we would like to hear more of you on Thursday evenings. Surprised to hear the voice of Clive, who has been popping up on 2AHL, but I have not long time Clive since we heard you on 80 mX.

If Bob 2AFP is not on the air, bring him along this Thursday evening, The 7 m. band ending the 2000 hour. I have not been able to hear about 2000 either, the WIA news broadcasts.

The taped lectures from N.S.W. Division are being circulated on the North Coast and are making a worthwhile contribution to helping people understand the cause.

This month (October) we give welcome to our new Ham-We Cooper, VK3AQL, of Armidale. We hope to hear from him on 30th October. All hope to hear you in our 8K MHz Thursday evening N/C hook-up. Welcome also to Peter 2GQ who is just back from England. Ron 2ASA, who has been in the States, will be back in Armidale at Urunga. Rod 2ACU was also a visitor to Urunga, and Ted 2ACD spent two weeks with us in the States. The new service from the N/C is improving due to the efforts of group correspondents, but alas not all of them are good. However there is quite enough good news to keep any helpers will have a volume of news for me.

The Novمبر meeting was held at M.T.C. on 4/11/83 to a gathering of about 80 members, visitors and friends. The visitors included 4K3s, 4K4s, 4K5s, 4K6s, 4K7s, 4K8s, 4K9s, 4K10s, 4K11s, 4K12s, 4K13s, 4K14s, 4K15s, 4K16s, 4K17s, 4K18s, 4K19s, 4K20s, 4K21s, 4K22s, 4K23s, 4K24s, 4K25s, 4K26s, 4K27s, 4K28s, 4K29s, 4K30s, 4K31s, 4K32s, 4K33s, 4K34s, 4K35s, 4K36s, 4K37s, 4K38s, 4K39s, 4K40s, 4K41s, 4K42s, 4K43s, 4K44s, 4K45s, 4K46s, 4K47s, 4K48s, 4K49s, 4K50s, 4K51s, 4K52s, 4K53s, 4K54s, 4K55s, 4K56s, 4K57s, 4K58s, 4K59s, 4K60s, 4K61s, 4K62s, 4K63s, 4K64s, 4K65s, 4K66s, 4K67s, 4K68s, 4K69s, 4K70s, 4K71s, 4K72s, 4K73s, 4K74s, 4K75s, 4K76s, 4K77s, 4K78s, 4K79s, 4K80s, 4K81s, 4K82s, 4K83s, 4K84s, 4K85s, 4K86s, 4K87s, 4K88s, 4K89s, 4K90s, 4K91s, 4K92s, 4K93s, 4K94s, 4K95s, 4K96s, 4K97s, 4K98s, 4K99s, 4K100s, 4K101s, 4K102s, 4K103s, 4K104s, 4K105s, 4K106s, 4K107s, 4K108s, 4K109s, 4K110s, 4K111s, 4K112s, 4K113s, 4K114s, 4K115s, 4K116s, 4K117s, 4K118s, 4K119s, 4K120s, 4K121s, 4K122s, 4K123s, 4K124s, 4K125s, 4K126s, 4K127s, 4K128s, 4K129s, 4K130s, 4K131s, 4K132s, 4K133s, 4K134s, 4K135s, 4K136s, 4K137s, 4K138s, 4K139s, 4K140s, 4K141s, 4K142s, 4K143s, 4K144s, 4K145s, 4K146s, 4K147s, 4K148s, 4K149s, 4K150s, 4K151s, 4K152s, 4K153s, 4K154s, 4K155s, 4K156s, 4K157s, 4K158s, 4K159s, 4K160s, 4K161s, 4K162s, 4K163s, 4K164s, 4K165s, 4K166s, 4K167s, 4K168s, 4K169s, 4K170s, 4K171s, 4K172s, 4K173s, 4K174s, 4K175s, 4K176s, 4K177s, 4K178s, 4K179s, 4K180s, 4K181s, 4K182s, 4K183s, 4K184s, 4K185s, 4K186s, 4K187s, 4K188s, 4K189s, 4K190s, 4K191s, 4K192s, 4K193s, 4K194s, 4K195s, 4K196s, 4K197s, 4K198s, 4K199s, 4K200s, 4K201s, 4K202s, 4K203s, 4K204s, 4K205s, 4K206s, 4K207s, 4K208s, 4K209s, 4K210s, 4K211s, 4K212s, 4K213s, 4K214s, 4K215s, 4K216s, 4K217s, 4K218s, 4K219s, 4K220s, 4K221s, 4K222s, 4K223s, 4K224s, 4K225s, 4K226s, 4K227s, 4K228s, 4K229s, 4K230s, 4K231s, 4K232s, 4K233s, 4K234s, 4K235s, 4K236s, 4K237s, 4K238s, 4K239s, 4K240s, 4K241s, 4K242s, 4K243s, 4K244s, 4K245s, 4K246s, 4K247s, 4K248s, 4K249s, 4K250s, 4K251s, 4K252s, 4K253s, 4K254s, 4K255s, 4K256s, 4K257s, 4K258s, 4K259s, 4K260s, 4K261s, 4K262s, 4K263s, 4K264s, 4K265s, 4K266s, 4K267s, 4K268s, 4K269s, 4K270s, 4K271s, 4K272s, 4K273s, 4K274s, 4K275s, 4K276s, 4K277s, 4K278s, 4K279s, 4K280s, 4K281s, 4K282s, 4K283s, 4K284s, 4K285s, 4K286s, 4K287s, 4K288s, 4K289s, 4K290s, 4K291s, 4K292s, 4K293s, 4K294s, 4K295s, 4K296s, 4K297s, 4K298s, 4K299s, 4K300s, 4K301s, 4K302s, 4K303s, 4K304s, 4K305s, 4K306s, 4K307s, 4K308s, 4K309s, 4K310s, 4K311s, 4K312s, 4K313s, 4K314s, 4K315s, 4K316s, 4K317s, 4K318s, 4K319s, 4K320s, 4K321s, 4K322s, 4K323s, 4K324s, 4K325s, 4K326s, 4K327s, 4K328s, 4K329s, 4K330s, 4K331s, 4K332s, 4K333s, 4K334s, 4K335s, 4K336s, 4K337s, 4K338s, 4K339s, 4K340s, 4K341s, 4K342s, 4K343s, 4K344s, 4K345s, 4K346s, 4K347s, 4K348s, 4K349s, 4K350s, 4K351s, 4K352s, 4K353s, 4K354s, 4K355s, 4K356s, 4K357s, 4K358s, 4K359s, 4K360s, 4K361s, 4K362s, 4K363s, 4K364s, 4K365s, 4K366s, 4K367s, 4K368s, 4K369s, 4K370s, 4K371s, 4K372s, 4K373s, 4K374s, 4K375s, 4K376s, 4K377s, 4K378s, 4K379s, 4K380s, 4K381s, 4K382s, 4K383s, 4K384s, 4K385s, 4K386s, 4K387s, 4K388s, 4K389s, 4K390s, 4K391s, 4K392s, 4K393s, 4K394s, 4K395s, 4K396s, 4K397s, 4K398s, 4K399s, 4K400s, 4K401s, 4K402s, 4K403s, 4K404s, 4K405s, 4K406s, 4K407s, 4K408s, 4K409s, 4K410s, 4K411s, 4K412s, 4K413s, 4K414s, 4K415s, 4K416s, 4K417s, 4K418s, 4K419s, 4K420s, 4K421s, 4K422s, 4K423s, 4K424s, 4K425s, 4K426s, 4K427s, 4K428s, 4K429s, 4K430s, 4K431s, 4K432s, 4K433s, 4K434s, 4K435s, 4K436s, 4K437s, 4K438s, 4K439s, 4K440s, 4K441s, 4K442s, 4K443s, 4K444s, 4K445s, 4K446s, 4K447s, 4K448s, 4K449s, 4K450s, 4K451s, 4K452s, 4K453s, 4K454s, 4K455s, 4K456s, 4K457s, 4K458s, 4K459s, 4K460s, 4K461s, 4K462s, 4K463s, 4K464s, 4K465s, 4K466s, 4K467s, 4K468s, 4K469s, 4K470s, 4K471s, 4K472s, 4K473s, 4K474s, 4K475s, 4K476s, 4K477s, 4K478s, 4K479s, 4K480s, 4K481s, 4K482s, 4K483s, 4K484s, 4K485s, 4K486s, 4K487s, 4K488s, 4K489s, 4K490s, 4K491s, 4K492s, 4K493s, 4K494s, 4K495s, 4K496s, 4K497s, 4K498s, 4K499s, 4K500s, 4K501s, 4K502s, 4K503s, 4K504s, 4K505s, 4K506s, 4K507s, 4K508s, 4K509s, 4K510s, 4K511s, 4K512s, 4K513s, 4K514s, 4K515s, 4K516s, 4K517s, 4K518s, 4K519s, 4K520s, 4K521s, 4K522s, 4

The usual plea for technical articles was made. What about the v.h.f. gang knocking up a couple based on the lecturettes (of which more anon) which followed the general business.

F.E. is still waiting on guest editorials and 32S spoke on this matter, outlining the type that is wanted.

The membership list is still growing, and this

month got a real boost, with four full members and six associates, all of whom are listed. H. J. Bassies, SAHE; H. Charles, 3AHC; G. Daid, H. J. Hoyer, 3ADZ; G. T. Griffiths, 3AKC; J. Arnold, G. A. Bowers, D. Campbell, T. J. Copell, M. R. Higgins (WRQX) and K. L. Rodgers. A hearty welcome to all, and apologies for any mis-spelt names.

When the State Convention came up for discussion it sounded like Guy Fawkes night. The fireworks really started. Too late to do anything about it this year, but no doubt the

collaborators will debut fruit next season. The time of pressing, and five speakers were lined up: smoke, 32. Introductions by the speakers, namely Max Howden, Jim on Crystal Controlled Converters; Harry Chapman, Conversion of the AR301 for 144 Mc.; Jim Bail, Mobile Tx for 144 Mc.; Len Moncur, Mobile Gear for 144 Mc.; Herb Stevens, Conversion of the ZB3 for 144 Mc. All very interesting, and should be published. One thing I'd like to know though, does any of the v.h.f. group use any hand-held transmitters?

The boys don't like being evicted from the M.T.C. at 10.30, but as these facilities are made available free, gratis and for nix, there's no reason they can be done about it. The Queen Street "rooms" that the same boys are using for the gathering. Never mind, the Building Fund is gathering, only another £29,495 wanted to buy a city building. Once that's fixed, there'll be no need to go to the M.T.C. for a while.

My back-stop has apparently lined up with 5PS. He has stooped to threats. Threatens to either knock my teeth out or pull them out with a pair of pliers. I've been sitting on my soft pedal this month, or I might miss out on the cruise down the Bay. How am I doing? Harold. Heard STX trying to get audio on his tape. He's got a tape deck, but he's not using some form of clamper tube modulation. 3AMZ building converter for 40 mx to go with the b.c. set. Associate Bill Williams planning to buy a tape deck. He's got a tape deck, but a ticket bill? JTJ has changed QTH. Same line of business, but now in South Melbourne.

Had a visit from 3ATK and 3ALO during the month. Austin has been off the air for a couple of years, and has racked out enough hits and pieces to get on 40 mx. Looks like he'll join us on 288 Mc. in the next week or so. 3AHL heard a mobile in various places, getting ready for holidays—no doubt.

Now for the news of the month. Our dear Editor is now out of hospital. He still has to attend twice a week for treatment. We all hope it won't be long before he is back in circulation and running the blue pencil through the SPS padding.

At this juncture, I'll wish one and all a very happy Xmas and the compliments of the season. May the DX roll in, may the v.h.f. bands open up, and the commercials all move out of our bands.

decided to give it a miss were decidedly bad judged, because the talk was enjoyed by all, even by those whose interest in the v.h.f. is only slight. Mr. Mason discussed weather maps, temperature inversions, and all the jargon of the v.h.f. in such a simple manner as to make it decidedly interesting to all members present. The intelligent type of question asked by members at the conclusion of the talk, together with the genuine applause that greeted the vote of thanks proposed by Gordon SXU was sufficient indication of the success of the efforts of Mr. Mason. This lecture was taken as the test lecture for the tape recording experiment and turned out a success so I am informed. When it has been edited it will be sent out to country members together with an explanatory paper describing the blackboard part of the lecture, and it is hoped that this experiment will be worth while repeating as often as is possible, because this is entirely up to the country member.

The only important general business that was discussed at any length was that of the possibility of the Government Tourist Bureau sending us another issue of QSL cards this year. The President advised members that Jim SFO had seen the Director of the Tourist Bureau and whilst this gentleman would not commit himself at the moment, he was optimistic as to the ultimate outcome. The matter of the Xmas Social and the Picnic in the New Year was also discussed and now all that remains is for the gang to do the right thing and both functions should be a huge success.

Among the welcome visitors were Messrs. L. Elphick, K. Keley, L. Gabb, and Claude SCH from Mount Gambier. To these gentlemen we say "pleased to see you, and come again." The meeting closed at 10.30 p.m. officially, but the lights were not put out until after 11 p.m., which tells its own story.

SOUTH EAST AREAS

STW has returned from his holidays but as yet Tom has not found much time for radio, that is as a hobby I mean. SCH also is not very active since he returned from his short visit to the city, he is decidedly busy around the house. SMS is still finding that 20 mx opens up at times and Stewart is still chasing those elusive new countries. SKU has had a few contacts on 20 and 40 mx, although Erg is not altogether satisfied with the results of the new beam as compared with those enjoyed by SMS.

The two Johns, SFD and SJA are still in the land of the missing. SCH has been taking the usual skeds and the rest of Collin's spare time has been taken up with preparing the emergency fire services equipment for the coming summer. Associate member Jack Fowler's eye is improving rapidly and he has also been busy on the E.F.S. gear.

It is the usual practice at this time of the year to draw members' attention to the coming Xmas Get-Together, which is only another way of describing the December general meeting. You all know the idea by now, bring enough food for yourself, place it on the big table, and hop in and enjoy the fun. The main thing is the food; last year we took what was left over around to one of the orphan homes, but don't let that fact cause you to leave any sponge cakes or strawberry tarts out of your parcel this year because I have sharpened up my appetite during the year, and probably I will have some mates in this regard. The liquid refreshment side of the evening will be taken care of by Council, as will be the entertainment, and all that I can say you enjoyed last year's Social, so come along again this year and repeat the dose.

Regarding the Picnic at the Gorge Recreation ground on January 25, 1954, all that I can say is that it is primarily intended for the XYLS and the Harmonics, although the OM's will be catered for with tennis, swimming, cricket, and several contests not usually associated with Amateur Radio. I have been given to understand that the cricket match will be held between the c.w. boys and the phone boys. Book for the bus early and don't forget to bring the family. This is your day, make it a day to be remembered by all.

PORT PIRIE AREA

Some months ago I received a little booklet from the Rev. Gutberlet, VK5OD, which claimed to be the official organ of the Port Pirie Amateur Radio Society. I welcomed the booklet as a means of getting some news for the magazine, but after reading the entire contents several times, I decided to wait for another edition, because possibly it was not very peculiar. Having read the next edition, and then the next, I placed the matter in the hands of Council in an endeavour to find a way out of an embarrassing situation. All members of Council read "Wogs," as this peculiar booklet is titled, and were unanimous in their opinion

that it was impossible to even understand a word of it, let alone secure any items of news suitable for the magazine. It was finally decided that when the editor, the Rev. Gutberlet, succeeded in writing something which could be understood, then it could be printed.

After a long and patient wait, and acting upon the direction of the YK Council, I am happy to quote from Volume Six—September issue—which reached me on 21st October, the following: I quote: "The editor, moved by compassion, refers to an item contained in the last minutes of the Society where SEN complains that he has not received a copy of 'Amateur Radio' for some time. If SEN requires some for the technical articles and other matter relevant to Amateur Radio contained therein, then he has something to moan about, but if he desires in addition to the above to see some mention of the activities of the Port Pirie gang, then it would be advisable for him to forget the whole thing. Generally speaking, if you desire to read sheer unadulterated tripe, then read that section by all means. You will read all about the 'big spots' in the game, including the very tiring reiteration of humbug between Doc and the Parsons bloke, and one can appreciate the sentence in the latest issue 'My little business was transacted' (This refers to the last general meeting—Ed.). As a contribution to the Women's Magazine or Peg's Paper, one could give the articles much praise, but if it is supposed to represent the activities of Amateur Radio in South Australia, then it is the most blatant form of balderdash exposed to human vision and deserves relegation to that place where guided missiles are integrated far away from human activity." Unquote.

Ignoring the mis-spelt words and a lack of necessary punctuation hints, something that can happen to even the best of us, I accept the criticism of the Rev. Gutberlet, or shall I call him "Guthy," because I have always maintained that if one is to be criticised, then it should be by a person who is a recognised expert on the subject, and, after all, as editor of "Wogs," who is more fitted than "Guthy" to pass an authoritative opinion on "sheer unadulterated tripe" and "blatant form of balderdash exposed to human vision." Not wishing to descend to the standard of rudeness as practised by "Guthy," but rather working on the principle of "turning the other cheek," turning the other cheek, and that the meek shall inherit the earth, I thank "Guthy" for at long last giving me something to write about.



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Ken. TWA has a fine piece of workmanship built a 15 mhz beam which is all complete except for a motor to drive it and I believe that DX has never been so good at TWA's QTH before. TWA has recently spent a great deal in constructing a new type of beam which is switched instead of rotated, but when the final tests were made the whole thing was a disappointment as the best results were obtained with the dipole alone and as directors and reflectors were added the signal just faded out. The monthly meeting was held at the home of your truly (R. Wilson) where there was a good roll up of members and I gave a talk on radar as applied to the last war. Supper was provided and everyone seemed to enjoy themselves.

CORRESPONDENCE

Editor "A.R." Dear Sir,

Your Editorial in October "Amateur Radio" asks why the Amateur is generally categorised as a radio maniac or wireless crank. If we could find the reason it would be easy to make the correction.

Mr. Public judges the Radio Amateur in two ways. First, he hears him on the air and secondly he observes a neighbour who is an Amateur.

In listening to an Amateur transmission, he most often hears a lot of queer jargon—meaningless to him—because abbreviation introduced for speeding up Morse transmissions are used in speech when often it would be quicker to use plain words (for example, XYL is the word for wife). In some cases he hears continual repetition and humour which, although probably appreciated at the other end of the contact, sounds peculiar to him.

The neighbour he observes is often an Amateur who spends as much as 90 per cent. of his leisure time on his hobby. He hears via local gossip of the excessive time devoted by the Amateur to what is considered useless gossip on the air and often notes the lack of other normal activities, such as gardening and sport by the Amateur.

Amateur Radio is a most absorbing hobby, so absorbing that it can easily become an obsession and in my opinion it is the Amateurs who have become obsessed with their hobby who have brought into use the terms "radio maniac" and "wireless crank."

"QSD."

HAMADS

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Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is used for personal property. Copy must be received by 31st of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

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SELL—Oscilloscope, 5 inch, complete, push-pull amps., wide range time base, in case, commercial finish, new, £28. A. White, Crib Point, Vic.

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